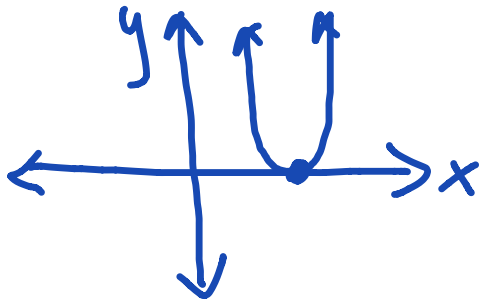


# Quadratics: How Many Solutions?

## I. One Solution

There will be one solution when the vertex of the parabola intersects the x-axis in one spot. One x-intercept.

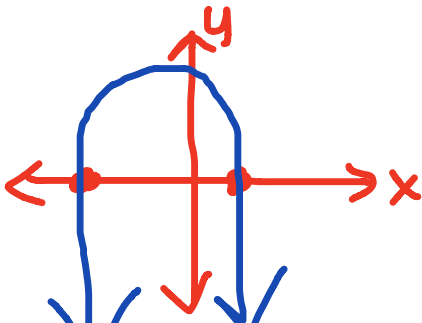


Solution will have one answer

$$X = 4 \text{ (example)}$$

## II. Two Solutions

There will be two solutions when the parabola intersects the x-axis in two places.

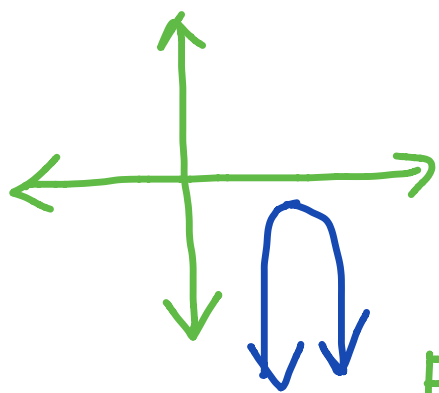


Two solutions

$$\text{example: } X = \frac{4 \pm \sqrt{13}}{5}$$

### III No real solutions

When the parabola does NOT intersect the x-axis there are No real solutions.



If an answer has  $\sqrt{\text{negative \#}}$  then No real solution

Ex:  $x = \frac{2 \pm \sqrt{-3}}{2} \rightarrow$  means  
x = No Real Solutions